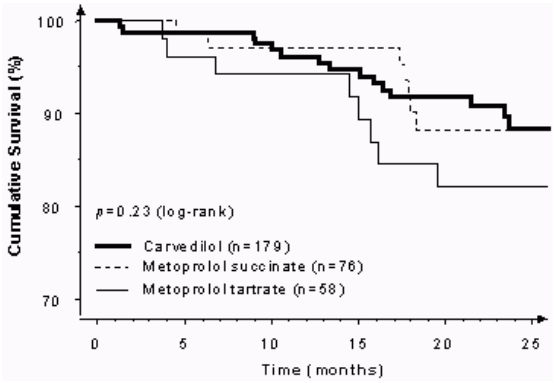
BB, 31% were due to failure to restart BB following hospitalization. More vigilance regarding restoration of BB usage following hospital discharge is in order.



POSTER SESSION

1108 Heart Failure: Outcomes II

Monday, March 08, 2004, 3:00 p.m.-5:00 p.m.
Morial Convention Center, Hall G
Presentation Hour: 4:00 p.m.-5:00 p.m.

1108-109 Low Hemoglobin Is an Independent Predictor of Adverse Fatal and Nonfatal Outcomes in Both Reduced and Preserved Systolic Function Chronic Heart Failure: Findings From the Candesartan in Heart Failure Assessment of Reduction in Mortality and Morbidity Program (CHARM)

John J. McMurray, Chim C. Lang, Karl Swedberg, Jan Östergren, Christopher B. Granger, Eric Michelson, James B. Young, Bertil Olofsson, Mark Dunlap, Salim Yusuf, Marc A. Pfeffer, for the CHARM Investigators, Western Infirmary, Glasgow, United Kingdom

Background: Low hemoglobin (Hb) is associated with higher mortality in patients with chronic heart failure (CHF) and a reduced left ventricular ejection fraction (LVEF). Whether Hb is an *independent* predictor of survival and also predicts non-fatal outcomes is unclear. The importance of Hb in CHF and preserved LVEF is unknown.
Methods: The 3 CHARM trials were: i) CHARM-Alternative (n= 2028): LVEF ≤ 0.40 intolerant of an ACE inhibitor (ACE-I) ii) CHARM-Added (n=2548): LVEF ≤ 0.40 taking an ACE-I iii) CHARM-Preserved (n=3025): LVEF > 0.40. Patients were randomised to placebo or candesartan and followed for 37.7 months. Outcomes were compared in those with Hb ≤ and > median (13.6g/dL).
Results: Unadjusted outcomes are shown in the table. In a multivariate analysis Hb was an independent predictor of outcomes in both reduced LVEF and preserved LVEF CHF. For the 2 low LVEF trials combined, the hazard ratios (HR) for > median versus ≤ median Hb were: Death 0.62 95% CI (0.51-0.75) p<0.0001; CHF hospitalization 0.72 (0.60-0.86) p=0.0005 and death or CHF hospitalization 0.68 (0.58-0.78) p<0.0001. For CHARM-Preserved the HR were: 0.63 (0.46-0.86) p=0.004, 0.62 (0.47-0.81) p=0.0005 and 0.65 (0.52-0.81) p=0.0002, respectively.
Outcome in overall CHARM Programme according to whether baseline haemoglobin was above or equal to/below median

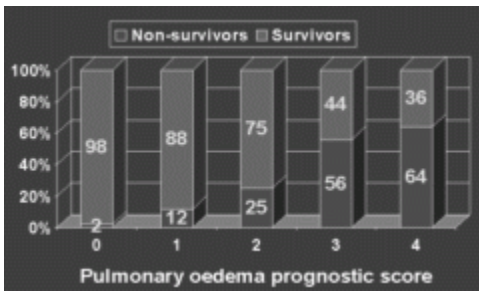
	Hb > median (n=1368)	Hb ≤ median (n=1281)
Outcome (%)		
death	19.0	27.9
CHF hospitalization	22.5	30.3
Death or CHF hospitalization	33.5	44.9

Conclusion: Hb is an independent predictor not only of death but also of CHF hospitalization. Hb is of as much prognostic significance in CHF with preserved LVEF as in CHF with a reduced LVEF.

1108-110 Pulmonary Edema Prognostic Score: A Novel Simple Prognostic Tool for Short-Term Events in Acute Cardiogenic Pulmonary Edema

Marcin Fiutowski, Tomasz Waszyrowski, Maria Krzeminska-Pakula, Jaroslaw D. Kasprzak, Medical University of Lodz, Lodz, Poland, Jonscher Hospital, Lodz, Poland

BACKGROUND: Cardiogenic pulmonary edema (CPE) is a common reason of hospitalisation connected with high mortality, but few data are published regarding long- and short-term prognosis and no prognostic scales are in use.
AIM: To establish a simple score predicting the in-hospital prognosis in patients with CPE.
METHODS AND RESULTS: We studied 276 Pts (148 females; mean age 70 years) hospitalised due to CPO (hospital stay 12±7 days). In-hospital mortality was 21%. 44 clinical variables were included in the analysis to revealthe most significant mortality predictors: acute myocardial infarction (RR=2,12), heart rate:>115/min. (RR=2,13), systolic blood pressure ≤ 130mmHg (RR=3,61) and white blood cells>11500/mm^3 (RR=2,26) on presentation. The number of risk factors was summed to create pulmonary edema prognostic score (PEPS). PEPS had a linear relationship with mortality - figure. Pts with PEPS 0 had very good short-term prognosis with 2% in-hospital mortality rate (RR=0,07) whereas mortality in Pts with PEPS 4 was 64% (RR=3,31). Receiver operating characteristic curve analysis proved good discriminative ability (AUC= 0,78). Score above 1 had sensitivity of 79%, specificity of 62%, 36% positive and 92% negative predictive value for in-hospital mortality
CONCLUSIONS: Pulmonary edema prognostic score is a simple bedside tool allowing a precise prediction of in-hospital prognosis after acute cardiogenic pulmonary edema.



1108-111 Serum Hyaluronic Acid Elevation in Patients With Decompensated Congestive Heart Failure Is Independent of Left Ventricular Systolic Function

Leonardo C. Clavijo, Daniel J. Cantillon, Jinguo Chen, Lurong Zhang, Michael D. Greenberg, Cynthia M. Tracy, Georgetown University, Washington, DC

BACKGROUND: Hyaluronic acid (HA), an extracellular glycosaminoglycan, is elevated during hepatic hypoperfusion, edema and fibroproliferative disorders. Serum HA is 90% metabolized and excreted by the liver. We have recently demonstrated that serum HA is elevated in patients (pts) with decompensated CHF (dCHF).
HYPOTHESIS: Serum HA elevation in pts with clinically dCHF is independent of LV systolic function (LVSF) and CHF etiology (ischemic vs. non-ischemic), thus reflecting poor hepatic perfusion and edema.
METHODS: A novel enzyme linked immunosorbent assay (ELISA) was used to measure serum HA levels in two hundred pts consecutively admitted to the hospital. Fourteen pts were excluded due to chronic liver disease or renal insufficiency. All dCHF pts were symptomatic and the diagnosis confirmed by a cardiologist blinded to HA level. Based on LVSF measured by echocardiogram, gated nuclear imaging or ventriculogram dCHF pts were divided in two groups: dCHF + preserved LVSF (EF>40%) or dCHF + depressed LVSF (EF <40%). Ischemic cardiomyopathy was identified by the presence or absence of coronary disease in the setting of dCHF.
RESULTS: Admission serum HA levels were markedly elevated in pts with dCHF (259.0 ng/ml, SEM=49.5, n=32) vs. non-CHF pts (104.0 ng/ml, SEM=6.2, n=154), p<0.001. Serum HA levels in pts with dCHF + preserved LVSF (348.5 ng/ml, SEM=106.2, n=14) and dCHF + depressed LVF (189.4 ng/ml, SEM=24.4, n=18) were elevated compare to non-CHF pts (104.0 ng/ml, SEM=6.2, n=154), p<0.001. The difference between dCHF with preserved and depressed LVSF was not significant (p=0.11). There was no difference in HA levels between ischemic and non-ischemic dCHF groups (293.3 ng/ml, SEM=71.9, n=21 vs. 193.3 ng/ml, SEM=41.3, n=11), p=0.27.
CONCLUSION: Serum hyaluronic acid level is elevated in pts with symptomatic clinically dCHF. HA elevation is independent of left ventricular systolic function and ischemic etiology. Further studies are needed to investigate the mechanisms and prognostic value of HA elevation during dCHF.

1108-112 An Embolic Event to Death in More Than 50 Percent of Patients With Idiopathic Dilated Cardiomyopathy in End-Stage Heart Failure

Antonio C. Barretto, Sr., Mucio T. Oliveira Jr, Sr., Robinson T. Munhoz, Sr., Airton R. Scipioni, Sr., Maria L. Higuchi, Jose A F Ramires, Sr., Heart Institute, (InCor), University of São Paulo Medical School, São Paulo, Brazil

Background: Pts with idiopathic dilated cardiomyopathy (IDC) and end stage heart failure has a worse prognosis with high mortality. Embolic events (EE) could contribute to the heart failure bad evolution of these pts.
Objective: To clarify the importance of EE in the evolution of pts with IDC, we analyzed the data from necropsies of heart failure pts that died at the hospital in the last ten years.
Methods: Between 1990 and 1999, 3847 necropsies were performed and 118 pts had IDC. The pts mean age was 41.8 years and 74 (62,7%) were male. The echocardiogram showed a mean LV end diastolic diameter of 76,0 mm and a mean LV ejection fraction of 0,32. Results: EE were identified in 90 (76,3%) pts, 61 (51,7%) of those had pulmonary embolism (PE), 29 (24,6%) systemic embolism (SE) and 33 (14.2%) both. The great majority of EE was not diagnosis in life. Cardiac thrombus was detected in right chambers in 26 pts (22,0%) and in left chambers in 18 (24,62%). The main embolic source